

REMARKS

The references listed on the attached PTO forms are called to the attention of the U.S. Patent and Trademark Office. Applicants enclosed a copy of each of these references.

Enclosed is a copy various papers from the *Ex Parte* Reexamination proceeding in copending Reexamination Application No. 90/006,150 of applicants. Included in these enclosures are Third Party Requester's Statement and its Appendix of Exhibits, Patent Owner's Statement, three Declarations accompanying same, Petitioner's Reply, and two Declarations accompanying same, and Exhibits not otherwise in the present file. It is understood that all of the materials and information in the *Ex Parte* Reexamination are readily available to the Examiner to the extent deemed appropriate or necessary by the Office.

The enclosed papers include a Declaration of Juliana Parente, which provides further information on a reference of record in this application, Pio, et al. This Declaration was filed because, in that Reexamination proceeding, Table 5 of Pio, et al., also of record in the present application, was questioned. Parente Exhibit 1 of this Declaration contains Ms. Parente's translation of Table 5. Parente Exhibits 2 and 3 contain what Ms. Parente considers to be more proper translations of certain passages of Pio, et al.

This statement is provided in order to comply with 37 CFR §1.56, §1.97 and §1.98, and this statement is not to be

construed as a representation that no information exists which is more material than these references, or that the information is considered to be material to patentability.

In the Office Action, claims 1-30 are rejected under 35 U.S.C. §112, first paragraph. Applicants have, it is believed, obviated this rejection by the amendments which specify that the juice is not from concentrate juice, which is pasteurized juice. Original claims 22 and 27 recited that the blending step provides not from concentrate orange juice, and not from concentrate orange juice products are disclosed in applicants' description, such as at line 21 of page 1 and line 4 of page 9. As is well known in the art, not from concentrate juice is pasteurized juice. Juice processing into not from concentrate orange juice includes pasteurization. See for example Braddock, *Handbook of Citrus By-Products and Processing Technology*, page 53, and page 3, lines 36-37 of Ma and Lada PCT Publication No. WO01/87092, and the Declaration of John Attaway, Sr., e.g. paragraph 5, especially lines 1-4 on page 4 (submitted by **Requester** in the Reexamination noted above). Each of these is in the current Supplemental Information Disclosure Statement.

Reconsideration and withdrawal of the Section 112 rejection are requested.

Claims 1-30 are rejected under 35 U.S.C. §103 from Bonaventura et al "Refrigeration of Blood Oranges Destined for Transformation" in view of *Citrus Industry*, June 99, and Pao et

al, "Formulation of Sensory Evaluation of Fresh-Squeezed, Unpasteurized Juice Blends".

Bonaventura reports upon storage experiments for blood oranges. The principle variant in these tests was the storage temperature. In essence, Bonaventura reports that, if one follows blood orange production in Sicily, the shelf life of extracted juices can be extended by refrigeration temperatures bordering upon freezing temperatures.

Applicants note that the Office takes the position that Bonaventura teaches "juice samples were aseptically filled into glass bottles." This quote appears to be from the abstract of this article. Applicants respectfully observe the language quoted from the English abstract of the Bonaventura article does **not** say that the juice samples were aseptic.

The actual version of Bonaventura which was published in English does not contain this quoted language. Instead, it says that the bottles were sterilized or "aseptic". See the top of the first column on page 286 and the middle of the first column on page 289 of the published English version of the article. The unambiguous teaching of the full English text article that the bottles were "aseptic" should control.

In fact, the full published English version of the Bonaventura article teaches in the very first paragraph that the Bonaventura juices are: "neither pasteurized nor frozen, but simply refrigerated" (emphasis added).

The Office states at the top of page 4 that Bonaventura et al store their samples for up to 50 days, and suggests this shows the juices must have been pasteurized, despite the clear statement quoted immediately above. The

second paragraph in the first column on page 284 of the Bonaventura article refers to a shelf life of 20 days for juice stored at 1°C. Pages 286-8 give data, showing a quality minimum of 7. Much of the data show results below this minimum. In the Conclusions, the minimum shelf life is said to be 8 days for 7°C storage and 21 days for 1°C and 4° storage. The Summary on page 289 says "good quality" was maintained for 8 to 21 days under 7°C storage, for 21 to 42 days under 4°C storage and 24 to 50 days under 1°C storage. These unimpressive results (in a commercial juice context) do not obliterate the clear statement in the very first paragraph of Bonaventura that these juices were **not pasteurized**.

Moreover, Bonaventura does not teach the cultivars specified in applicants' claims. Even if Bonaventura teaches using mid-season cultivars, any case of *prima facie* obviousness is overcome by the Taggart Declaration which was previously submitted by applicants to compare the invention with Bonaventura. The information of the Taggart Declaration is particularly instructive with respect to the teachings of Bonaventura regarding blood oranges. As noted in the Taggart Declaration, blood oranges and unpasteurized blood orange juice compared favorably with other cultivars and unpasteurized juices. This is not inconsistent with Bonaventura et al and their "neither pasteurized nor frozen" blood orange juice. However, when the blood orange juice was made into not from

concentrate orange juice, which is pasteurized juice, pronounced off-flavors were evident. Bonaventura is consistent in that this article does not recognize off-flavors of the unpasteurized blood orange juice.

Accordingly, in general, the very type of orange category, namely blood oranges (including Tarocco), which are **exclusively** the subject of Bonaventura were found to be unsuitable for use in the purview of the invention, namely commercially produced not from concentrate orange juice.

Concerning blending of juices, Bonaventura's reported blends of "Tarocco", "Moro" and "Sanguinello" blood orange juices were combinations of fresh-from-the-tree blood orange juice and juice from third quality blood oranges from whole fruit packing houses. Bonaventura et al teach blending these different blood orange sources.

Bonaventura et al. do not teach blending their blood oranges with juice of later season orange cultivars. Bonaventura et al. do not teach blending a mid-season orange juice of a Vernia cultivar and/or a Frost cultivar with another orange juice source which is neither a Vernia nor a Frost cultivar, such as a late season maturing orange (e.g., a Hughes Valencia or a Rhode Red Valencia) source before its peak harvesting season.

The Office Action suggests that the claimed invention is merely the discovery of an optimum value of a "result

effective variable" as noted in *In re Bousch*, 617 F.2d 272, 205 U.S.P.Q. 215 (CCPA 1980). The Office does not explain how the concept of "result effective variables" are "merely optimized" by applicants' invention. In *Bousch*, prior art disclosed metal alloys which overlapped with the claimed compositions and taught a variable to be minimized, a higher Nv value. In addition, the prior art in *Bousch* suggested the kind of experimentation needed to achieve the claimed composition.

This *Bousch* concept is not applicable here. The prior art which serves as the basis for the Section 103 rejection does not teach a variable that merely is to be optimized. The applied references do not teach or suggest that making up of not from concentrate juice blends, which include Vernia and/or Frost cultivar juices, would achieve the commercially advantageous combination of good color, good sensory properties, and good chemical properties in "mid" season, whereas others, such as blood oranges of the prior art would not.

*Bousch* recognizes that, even when variable optimization is known to be "result effective", an assertion of *prima facie* obviousness is rebutted where the results are unexpectedly good. As is evident from the Taggart Declaration already of record, the presently claimed invention achieves results which are unexpectedly good over the Bonaventura blood orange art. Put simply, Bonaventura's teachings regarding blood oranges do not translate to not from concentrate orange juice

which is commercially viable.

With further reference to *Bousch*, applicants note that this decision cites *In re Antonie*, 559 F.2d 618, 195 U.S.P.Q. 6 (CCPA 1977). *Antonie* reversed a finding of obviousness, noting that an obviousness determination requires looking first at the invention as a whole. At issue was a certain design parameter (a ratio value). *Antonie* indicated that this ratio value cannot be looked at alone, but must be looked at together with the properties of the subject matter which are inherent in the subject matter and disclosed by applicant. The CCPA analogized this situation to the requirement to look at a chemical and its properties in order to assess the patentability of the chemical. In *Antonie*, the device was unobvious because it was not possible to recognize from the prior art that capacity is a function of ratio; the prior art was not trying to maximize or control capacity. According to *Antonie*, obviousness is not determined by looking if it would have been obvious to try varying every parameter in order to optimize. Without a specific teaching, one cannot read into the prior art or conclude from the prior art that the ratio claimed in *Antonie* is the inevitable result of the prior art.

Applying *Antonie* to the present situation, one must begin by looking at the invention as a whole. This includes blends of juices of specific mid-season cultivar(s) into commercially produced not from concentrate juices. The unique

combination of good color, chemical properties and sensory attributes are not the inevitable result of using any mid-season cultivar. Blood orange juices will not achieve this claimed combination, although they have promise especially due to their good color when harvested in mid-season. To the extent that this subject matter might be argued to involve "parameter optimization" (with which applicants do not agree), the prior art relied upon in the rejection does not recognize that any such parameter optimization is a "result effective variable."

Neither of the secondary references remove these deficiencies of the Bonaventura et al primary reference. Regarding the *Citrus Industry* article, the Office states that it is cited for a disclosure of the following: various characteristics are known for oranges that ripen at various times. Applicants do not dispute this generalized observation. However, this does not establish that the not from concentrate juice blending or blends which applicants claim is known by combining Bonaventura et al with this and/or the other secondary reference. Neither secondary reference provides a teaching as to how to solve the problem which applicants have successfully addressed, how to fill a mid-season gap for not from concentrate orange juices.

*Citrus Industry*, Table 6 on page 28, shows harvesting Hughes Valencia cultivar and Vernia cultivar at the same time, namely on 14 March 1996 and on 7 April 1997, which is not a mid-



season harvest. During these later season harvests, these cultivars had good qualities, including color number and Brix-to-acid ratio. Column 2 on the same page recognizes that the Brix-to-acid ratio can reach 13 in February for this Vernia cultivar. Applicants' data and claims, such as claim 2, reference harvesting during the months of December to February in the Northern hemisphere. These *Citrus Industry* data do not teach the solution to the gap-filling timing problem to which applicants' claims are directed.

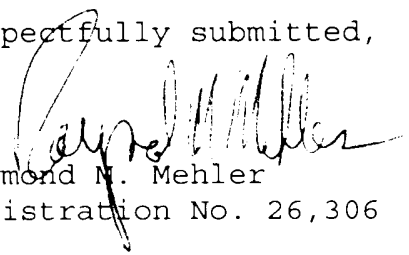
Applicants claim, despite these teachings, an invention wherein cultivars such as Vernia cultivars fill in a previously problematic gap between earlier season cultivars (such as Hamlin) and later season cultivars (such as the Valencias). This is illustrated graphically in Fig. 1 of applicants' specification. As noted in the discussion of this drawing in Example 1 on pages 22 and 23, these data show that peak overall quality scores occurred between early December and early February. Within this mid-season time frame, the Vernia outperformed both the earlier season cultivars (Hamlin) and the later season cultivars (Valencia). This is recited, for example, in claim 6.

None of the references of record, including the *Citrus Industry* article or Pao et al secondary references, teach the gap-filling mid-season characteristics and advantageous properties of applicants' claims.

Applicants understand this Office Action to state that the other secondary reference, the Pao et al article, is cited to show what applicants have never disputed: citrus juices are known to be improved by blending different citrus juices of differing maturities. See applicants' description such as on pages 2 and 3. However, Pao relates to a study to improve sensory and chemistry qualities of early season Hamlin orange juice and Marsh grapefruit juice. Additionally, reminiscent of Bonaventura, this relates to "individual and blended unpasteurized" citrus juices, rather than not from concentrate juices, which are pasteurized. There is no suggestion of solving the mid-season gap-filling, problem for not from concentrate orange juices which applicants successfully addressed.

Reconsideration and withdrawal of the §103 rejection are respectfully requested, as is the allowance of claims 1-21, 23-26 and 28-30. Favorable consideration is respectfully requested.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

--1. (Twice Amended) A method of commercially producing [an] a not from concentrate orange juice product, comprising:

harvesting a mid-season round orange cultivar selected from the group consisting of a Vernia cultivar, a Frost cultivar, or a combination of these mid-season cultivars, said harvesting providing said mid-season orange cultivar which has its peak properties during a time period after the peak harvesting season for early-to-mid season round orange fruit, namely Hamlin orange fruit, and before the peak harvesting season for late season round orange fruit, namely Hughes Valencia and Rhode Red Valencia orange fruit, each peak harvesting season being within the growing territory of the mid-season cultivar;

extracting juice from a volume of said mid-season round oranges;

[pasteurizing and] collecting the resulting extracted orange juice as a mid-season orange juice having a Brix-to-acid ratio (BAR) during said harvesting which is greater than that of either said early-to-mid season round orange fruit or said late season round orange fruit harvested within the time period of said harvesting; [and]

blending, on a commercial scale, said collected mid-season orange juice with another orange juice source in order to provide a juice composition having a greater BAR value than and sensory qualities equivalent or superior to the sensory qualities of

orange juice from either said early-to-mid season round orange fruit or said late season orange fruit harvested during said harvesting season; and  
said blending provides a not from concentrate orange juice, which is a pasteurized juice.--

--21. (Thrice Amended) A method of commercially producing [an] a not from concentrate orange juice product, comprising:

harvesting a mid-season round orange cultivar selected from the group consisting of a Vernia cultivar, a Frost cultivar, or a combination of these mid-season cultivars, said harvesting providing said mid-season orange cultivar which has its peak properties during a time period after the peak harvesting season for early-to-mid season round orange fruit, namely Hamlin orange fruit, and before the peak harvesting season for late season round orange fruit, namely Hughes Valencia and Rhode Red Valencia orange fruit, each peak harvesting season being within the growing territory of the mid-season cultivar;

extracting juice from a volume of said mid-season round oranges;

[pasteurizing and] collecting the resulting extracted orange juice as a mid-season orange juice having a Brix-to-acid ratio (BAR) during said harvesting which is greater than that of either said early-to-mid season round orange fruit or said late season round orange fruit harvested within the time period of said harvesting of the mid-season cultivar;

blending, on a commercial scale, said collected mid-season orange juice with another orange juice source in order to provide a juice composition having a greater BAR value than and sensory qualities equivalent or superior to the sensory qualities of orange juice from either said early-to-mid season round orange fruit juice or said late season orange fruit harvested during said harvesting season;

said collecting provides an orange juice source having a Color Number of at least 36 CN units; [and]

said blending blends at least about 5 volume percent, based on the volume of the orange juice, of said mid-season juice with said another orange juice source in order to provide an orange juice product having a Color Number in excess of 36 CN units; and

said blending provides a not from concentrate orange juice, which is a pasteurized juice.--

--23. (Thrice Amended) A method of commercially producing [an] a not from concentrate orange juice product, comprising:

harvesting Vernia cultivar round oranges which have their peak properties during a time period after the peak harvesting season for early-to-mid season round orange fruit, namely Hamlin orange fruit, and before the peak harvesting season for late season round orange fruit, namely Hughes Valencia and Rhode Red Valencia orange fruit, each peak harvesting season being within the growing territory of the Vernia

oranges;

extracting juice from a volume of said Vernia round oranges;

[pasteurizing and] collecting the resulting extracted orange juice as a mid-season orange juice having a Brix-to-acid ratio (BAR) during said harvesting which is greater than that of either said early-to-mid season round orange fruit or said late season round orange fruit harvested within the time period of said harvesting of the Vernia oranges; [and]

blending, on a commercial scale, said collected mid-season orange juice with another orange juice source in order to provide a juice composition having a greater BAR value than and sensory qualities equivalent or superior to the sensory qualities of orange juice from either said early-to-mid season round orange fruit or said late season orange fruit harvested during said harvesting season; and

said blending provides a not from concentrate orange juice, which is a pasteurized juice.--

--26. (Thrice Amended) A method of commercially producing [an] a not from concentrate orange juice product, comprising:

harvesting Vernia cultivar round oranges which have their peak properties during a time period after the peak harvesting season for early-to-mid season round orange fruit, namely Hamlin orange fruit, and before the peak harvesting season for late season round orange fruit, namely Hughes Valencia and Rhode

Red Valencia orange fruit, each peak harvesting season being within the growing territory of the Vernia orange;

extracting juice from a volume of said Vernia round oranges;

[pasteurizing and] collecting the resulting extracted orange juice as a mid-season orange juice having a Brix-to-acid ratio (BAR) during said harvesting which is greater than that of either said early-to-mid season round orange fruit or said late season round orange fruit harvested within the time period of said harvesting of the Vernia oranges;

blending, on a commercial scale, said collected mid-season orange juice with another orange juice source in order to provide a juice composition having a greater BAR value than and sensory qualities equivalent or superior to the sensory qualities of orange juice from either said early-to-mid season round orange fruit or said late season orange fruit harvested during said harvesting season;

said collecting provides an orange juice source having a Color Number of at least 36 CN units; and

said blending blends at least about 5 volume percent, based on the volume of the orange juice, of said Vernia juice with said another orange juice source in order to provide an orange juice product having a Color Number in excess of 36 CN units[.], and said blending provides a not from concentrate orange juice, which is a pasteurized juice.--

--28. (Twice Amended) A[n] not from concentrate orange juice composition comprising a blend of:

up to about 99 volume percent of a [pasteurized] mid-season orange juice supply, based upon the total volume of the composition, said mid-season juice [having been pasteurized on a commercial scale] being a not from concentrate orange juice, which is a pasteurized juice [and] ,said mid-season juice having a sensory profile equivalent or superior to that of 100 percent Hughes Valencia or Rhode Red Valencia orange juice from fruit harvested at about the same time as fruit from which said [pasteurized] not-from-concentrate mid-season juice originates;

at least about 1 percent by volume of an [a pasteurized] orange juice supply other than said mid-season orange juice supply, based upon the total volume of the composition; and

said fruit from which the not-from-concentrate mid-season [fresh] orange juice originates is a round orange cultivar selected from Vernia cultivars, Frost cultivars, or a combination of these mid-season cultivars.--